Review **Basic Safety and Infection Control, National Patient Safety Goals, and Pain Management.**

Review important aspects of **assessment** in the hemodialysis setting, including:

- Absence of bruit indication of thrombosis of AV fistula
- Conductivity alarm, pump continues to operate
- Determine direction of blood flow before cannulating loop access: Stop blood flow by pressing a finger on the anastomosis and feeling the pulse on the arterial side.
- High venous pressure reading, assess the venous access site
- Symptoms of hypercalcemia: anorexia, weakness; patient who takes paracalcitrol (Zemplar®)
- Symptoms of air in line: coughing, labored breathing, air in dialyzer
- Symptoms of dehydration: post-dialysis weight=EDW, hoarse voice, hypotension, ears popping, cramps in legs
- Symptoms of infection at catheter site, tenderness, swelling, discharge
- Monitor ultrafiltration to minimize intradialytic hypotensive symptoms

Review action, preparation, monitoring, and precautions related to **medications** commonly used in dialysis, such as

- Epoietin alfa (Epogen®), calculate mL dose from order in units
- Epoietin alfa (Epogen®), high H/H: reduce dose and check Hct at next blood draw
- Heparin, protocol: used to prevent thrombus formation; calculate mL dose from order in units
- Insulin sliding scale
- IV drops per minute calculation
- Ondansetron (Zofran®), treating nausea and vomiting during dialysis
- Paracalcitrol (Zemplar®), symptoms of hypercalcemia

Review important **actions** in the dialysis setting, including

- Angle of insertion for cannulating AV fistula
- Cannulation, apply tourniquet tightly enough to engorge the vessel
- 15-gauge needle, 350 mL/min = recommended gauge and flow for hemodialysis
- Minimize recirculation by placing needles 1.5 – 2 inches apart
- Use of normal saline as initial approach to manage muscle cramps during dialysis
- Treat hypotension during dialysis with bolus of normal saline and reducing ultrafiltration rate
- Point venous needle in direction of venous return
- Difficulty cannulating, seek assistance from more experienced staff member
- If chlorine/chloramine found in testing, report to person responsible for water treatment system
- Symptoms of dehydration, anticipate adjusting estimated dry weight
- Symptoms of infection at catheter site, report and expect: culture discharge and draw blood for culture
- Symptoms of air in line, clamp venous blood line and stop the blood pump

Review principles and practices related to **safety and infection prevention**, including

- Patient identifiers
- Use of handwashing rather than sanitizer when patient has C. diff
- Technician and patient wear mask during dressing change at venous catheter site
- Place cap on, or syringe, in the catheter lumen
Review principles and practices of **communication with patients and family**, including
- Patient satisfaction
- Avoid getting exit site wet
- Reason for rotating sites
- Feel for a thrill at the access and call unit if none is felt
- Potassium content high in bananas and spinach
- First dialysis – recognize and report symptoms of adverse reactions
- Never use arm with access for taking blood pressure
- Avoid eating immediately before or during dialysis to reduce likelihood of muscle cramps and hypotension

Review **troubleshooting** practices, including
- High venous pressure alarm = venous chamber is clotted
- High transmembrane pressure during dialysis = clotted dialyzer
- Low transmembrane pressure at start of dialysis = transducer flooded with saline during priming
- High arterial pressure = kinking of blood line between patient and monitoring site
- Slow blood pump to correct high negative arterial pressure
- Blood leak detector alarm = rupture of dialyzer membrane
- Dropping conductivity, check bicarbonate and acid bath levels

Review **dialysis standards**, including
- Adequacy of hemodialysis = spKt/V greater than 1.2
- Standard for microbial content of water = 6.8 – 7.6
- Recommended dialysate pH = 6.8 – 7.6